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NOTES AND COMMENTS

PEER GROUP INFLUENCES UPON ADOLESCENT DRINKING PRACTICES*

Kirk Alan Johnson

University of North Alabama

Utilizing longitudinal data on 345 high school students, this study investigates the impact that peer identification, sociability, activity, and perceptions of peer attitudes governing the use of alcohol have upon adolescent alcohol use, and the likelihood of experiencing personal problems as a consequence of drinking. The major findings are that adolescent orientations toward alcohol are responsive to all but peer identification, and that the predictors generally exert their strongest influences upon youthful drinking in and around the junior year. Similarly, alcohol use and personal problems associated with drinking each exert varying degrees of influence upon the predictors within and across time, though these effects generally cluster around the junior year as well.

Over the past twenty years, social scientists have become increasingly interested in the origins and consequences of adolescent alcohol use and abuse. Perhaps the most consistent theme to be found in these investigations is that while many children are initiated into the use of alcohol by parents and relatives within the home, the majority of youthful drinking occurs in social isolation free from adult regulation and control (Kandel et al., 1978; Kandel et al., 1976; Globetti, 1973, 1972; Kane and Patterson, 1972; Maddox, 1971; Stacey and Davies, 1970; Maddox and McCall, 1964). Despite wide-ranging concerns on the part of the lay public, however, these studies have also shown that the most common pattern of adolescent drinking is one of minimal usage (in terms of both quantity and frequency). On the basis of previous research, then, it would appear that only a small minority of youth engage in what might be termed the "excessive" or "problem" use of alcohol.

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Nevertheless, there is little doubt that patterns of use change over time and that the likelihood of experimental and problem drinking increase during adolescence. In attempting to investigate the sequence of events which precipitate youthful consumption, researchers utilizing panel and time-series data have revealed that the relative importance of various antecedents of alcohol use change cross-time (Potvin and Lee, 1980; Kandel et al., 1978; Margulies et al., 1977; Jessor and Jessor, 1977, 1975). That is, as youths mature, the factors which were important in contributing to their abstinence or alcohol consumption in the early years of adolescence may no longer be salient considerations at later points in time. It would appear that differing variables emerge cross-time as significant predictors of adolescent orientations toward alcohol.

An important factor in understanding changes in youthful drinking practices, then, is the recognition that adolescence is a period of changing roles, beliefs, and expectations. Adolescence may be characterized as a marginal life status falling between childhood and adulthood, during which boundary testing is commonplace as juveniles increasingly come to be confronted with age-graded normative prescriptions. Moreover, as Matza (1964), Briar and Piliavin (1965), and Hirschi (1969) note, during adolescence, parental and institutional control over youth generally decrease in importance, whereas the relative importance of the peer group increases. As adolescence progresses, then, peer interaction, and the definitions and behavioral expectations held by the peer group, appear to become important determinants of adolescent behavior. The youth-cultural hypothesis investigated herein is based upon the premise that peers are crucial determiners of adolescent conduct. The peer group not only provides adolescents with a means of coping with, and seeking solutions to, the various individual and structural problems encountered in everyday life (Brake, 1980), but it also heavily influences their values and behaviors. Therefore, the youth-cultural hypothesis postulates that, the greater the extent to which youths become tied to, or embedded in, the peer group, the greater the likelihood that they will conform to peer definitions and expectations.

The present paper is intended to shed further light on the role of the peer group in influencing adolescent orientations toward alcohol use. In utilizing panel data on high school students, the study focuses upon peer identification, sociability, activity, and perceptions of peer attitudes governing the use of alcohol as predictor variables. The two

dependent variables under examination are: 1) adolescent alcohol use; and 2) personal problems attributable to drinking. While the former simply refers to the quantity and frequency with which alcohol is consumed, the latter focuses our attention on the various interactive, legal, and school problems youths experience as a consequence of their alcohol use. The distinction between the two dependent variables is an important one, in that "personal problems" should not be confused with high alcohol use. For example, one youth might be a "heavy" drinker and experience few, if any, problems as a consequence of drinking, while another youth who seldom drinks, or drinks only in small quantities, may experience many complications as a result of alcohol consumption.

Given the above, the primary purpose of the paper is to assess the within- and cross-time efficacy of each predictor in contributing to the potential for alcohol use, and of experiencing its attendant problems. In addition, the research design investigates the impact that youthful drinking, and personal problems attributable to drinking, have upon the youth-cultural predictors within and across time. Therefore, the present research points to the interplay between alcohol use and the peer-oriented social/normative environment rather than addressing the issue as if it were a one-way relationship.

STATEMENT OF THE PROBLEM

Adolescent orientations toward alcohol use are clearly associated with peer group interaction, values, and expectations. For example, dating, attending parties, participation in sports, concerns for popularity, and minor forms of social deviance (such as youthful smoking and school truancy), have all been shown to be positively correlated with alcohol use and abuse (Greenberg, 1978; Margulies et al., 1977; Jessor and Jessor, 1977; Kandel et al., 1976; Coleman, 1962). Adolescent orientations toward alcohol, then, may be viewed as being reflective of juveniles' interpersonal relations with peers. On the basis of previous research it is argued not only that the peer group fosters alcohol use and its attendant life problems, but that peer-oriented youths are more likely to imbibe compared to those who fall outside of the adolescent mainstream.

As previously noted, this paper evaluates the impact of the peer group upon adolescent alcohol use, and its problematic consequences

for adolescents' lives, on four dimensions: peer identification, sociability, activity, and perceptions of peer attitudes governing the use of alcohol. The general thesis guiding the investigation is that while each of these is expected to exert an influence upon adolescent behavior throughout high school, the strength, or degree, of influence each predictor has will vary cross-time. That is, each of the predictors will be more or less important in molding adolescent orientations toward alcohol use at differing points in time, as students matriculate through high school. Similarly, alcohol use and the personal problems adolescents experience as a consequence of consumption are expected to evidence shifting degrees of influence upon each of the predictors within and across time.

Peer *identification* refers to an emotional or affectional bond between adolescents and their peers which guides youthful conduct. Such solidarity has been widely shown to be positively associated with alcohol use, and more generalized forms of delinquent conduct as well (Jessor and Jessor, 1975, 1977; Elliott and Voss, 1974; Forslund and Gustafson, 1970; Hirschi, 1969). That is, research coming from diverse theoretical perspectives has indicated that feelings of respect for and reliance upon peers guides adolescent conduct in directions favorable to the consumption of alcohol. Adolescents may be conceived of, then, as utilizing peer identification in the formation of their own normative standards and behavior patterns concerning alcohol. Thus, given previous research findings, the present analyses should reveal that adolescents who exhibit a strong sense of identification with peers are more likely to drink, and to experience personal problems in their lives as a consequence of drinking, when compared to youth lacking a strong sense of peer identification.

It is therefore hypothesized that peer identification will be associated with an increased likelihood of alcohol use, and of experiencing personal problems in one's life as a consequence of consumptive behavior, within and across time. Similarly, alcohol use, and its attendant problems, are expected to have positive consequences for the development and maintenance of peer identification within and across time. In addition, although no specific hypothesis is put forward, the study should also reveal at what point in time peer identification most strongly influences adolescents' orientations toward alcohol use, and vice versa.

Alcohol use and abuse have also been shown to be reflective of peer interaction in social and recreational activities (Greenberg, 1978;

Margulies et al., 1977; Burkett and White, 1976; Kandel et al., 1976; Coleman, 1962). That is, peer *activity* and *sociability* are positively correlated with alcohol use and abuse. Peer activity, as presently used, refers to the amount of time spent in peer-oriented recreational pursuits *outside* of the school context (i.e., in dating and same-sexed peer interaction). Sociability, on the other hand, refers to the degree of gregariousness exhibited by youth within the social structure of the school, and as such focuses upon concerns of being popular and active with other youth *within* the school context (for a discussion of the importance placed upon sociability by youth, see Scott and Vaz, 1963).

While youth who are highly active with peers, and who place a high degree of importance upon sociability, are more likely to consume alcohol, the two dimensions of peer interaction are not necessarily positively correlated. That is, not all youth who place a high priority upon being popular and active within the school will also be heavily involved in peer interaction outside school, and vice versa. As noted above, however, both forms of peer interaction should constitute positive predictors of alcohol use and its attendant personal problems within the present framework.

It is therefore hypothesized that peer activity and sociability will be associated with an increased likelihood of alcohol use and of experiencing personal problems as a consequence of drinking within and across time. Similarly, alcohol use and its attendant life problems are expected to have positive consequences for the development and maintenance of peer sociability and activity within and across time. In addition to testing these basic hypotheses, the use of panel data will reveal when activity and sociability exert their strongest influences upon youthful orientations toward alcohol, and when youthful drinking practices are most and least strongly predictive of peer sociability and activity.

The final predictor variable to be considered is perceived peer *attitudes* governing the use of alcohol. Adolescent alcohol use, like marijuana use (Kandel et al., 1978) is clearly associated with definitions supportive of use which are contrary to legal definitions. Therefore, one can expect to observe, through the analysis of panel data, the generation and maintenance of adolescent drinking practices which reflect a lack of perceived peer disapproval for use. Such "approval" promotes alcohol use and increases the likelihood of experiencing personal problems in one's life as a consequence of alcohol consumption. The youth who perceives his or her best friends as being supportive of use is

more likely to imbibe, and to experience problems in his or her life as a consequence of drinking, than is the youth who receives negative messages regarding drinking from peers. Perhaps more to the point, if the youth-cultural perspective is correct, alcohol use and "personal problems" will be reinforced by a perceived absence of sanctions, and those who imbibe (and exhibit problem use patterns) will perceive their closest peers as holding favorable attitudes toward the use of alcohol, thereby reinforcing their orientation toward use.

It is therefore hypothesized that perceptions of peers as holding attitudes favorable to the use of alcohol will increase the likelihood of alcohol use, and of experiencing personal problems in one's life as a consequence of drinking within and across time. Similarly, alcohol use and "personal problems" are expected to be positively associated with perceptions that peers approve of, or will not negatively sanction, alcohol use. In addition, the data will provide an indication of when the role of peer attitudes is most and least important in determining adolescent orientations toward alcohol use, and vice versa.

In summary, then, it has been argued that youth who evidence a high degree of solidarity or identification with peers, are highly active and social with peers, and receive positive views on the use of alcohol are more likely to drink and to experience somewhat higher levels of interactive, legal, and school problems as a consequence of drinking. Moreover, the degree of importance these predictors have in determining adolescents' drinking practices is expected to vary cross-time. From a youth-cultural perspective, then, the peer group is seen as a crucial determiner of adolescent behavior. Therefore, as peer identification, activity, sociability, and perceptions of positive attitudes concerning the use of alcohol increase in strength, youth are subjected to increasing levels of peer group socialization which orient them toward the use of alcohol and increase their chances of experiencing personal problems as a consequence of drinking. Similarly, if alcohol use is not considered deviant in the eyes of youth, the two orientations toward alcohol examined should be positively associated with the predictors within and across time. That is, drinking and "personal problems" should produce increases in peer identification, sociability, activity and attitudes. Therefore, within certain limits, adult-defined problem behaviors are accepted, if not promoted, by youth.

RESEARCH DESIGN

The Survey and the Sample. The research project from which the data for these analyses were derived was conducted in a largely agricultural ideologically conservative, community in the Pacific Northwest (estimated population 46,000). This larger "Youth Study" examined the lives of adolescents over a four-year period and focused on students in the ninth through twelfth grades. Thus, the larger study provided cross-sectional data on all students who agreed (and whose parents granted permission) to participate in the project in each of the four grades within any given year, as well as panel data on those who remained in school and completed the annual survey questionnaires over extended periods of time. The present research constitutes a secondary analysis of one such subsample of students. The subsample utilized was obtained by including only those students who participated in the survey during each of their three high school years ($N = 345$). Thus, those who either entered into, or left, the larger sample during the three-year period under examination have been eliminated from the analyses in favor of focusing upon the same group of students as they matriculated through high school.

Comparisons between the subsample and those not participating in the survey throughout the three-year period indicate that the subsample constitutes a fairly accurate representation of the total public school population and community at large. For example, 83 percent of the sample is white, five percent Spanish-American, four percent Native-American, and eight percent Black, Asian, and "Unknown." This racial/ethnic division is a fair replication (± 1 or 2 percentage points) of the larger school and community populations. In addition, the sample is fairly evenly divided into three occupational groupings (based upon father's occupation): 34 percent professional/managerial; 34 percent clerical, sales, and skilled labor/crafts; and 30 percent semi-skilled laborers. The data do reflect, however, a slight overrepresentation of females (approximately 56 female; 44 percent male), which may constitute a potential source of bias in the sample.

Measuring Peer Identification. An index representing peer identification was constructed utilizing the following six forced-choice items: 1) "I talk about my problems with my best friends"; 2) "I respect my best friends' opinions about the important things in life"; 3) "I confide my inner thoughts and feelings with my best friends"; 4) "I depend on my best friends for advice and guidance"; 5) "I respect

my best friends' judgments about normal everyday matters"; and 6) "I rely on my best friends for support and encouragement when I really need it." Response categories for these items ranged from 1) "Never" to 4) "Always." These items are highly correlated; the reliability coefficients (Chronbach alpha's, a somewhat mislabeled measure of internal consistency, or reproducibility, applicable to Likert scaling) range between approximately .84 and .91 over the three-year period, indicating that the items constitute a valid scale.

Measuring Peer Activity. As previously discussed, peer activity focuses on the amount of time spent in recreational pursuits with peers outside of the context of the school. Two items included in the survey reflecting this form of peer interaction are used to obtain an index of activity. These are: 1) "About how many hours a week do you generally spend going out (dating) with members of the opposite sex?" and 2) "About how many hours a week do you generally spend in recreational activities with friends of your same sex?" Response categories for each item ranged from 1) "Zero" to 11) "Ten hours a week or more." These responses were summarized into an overall index of activity ranging from those who reported no outside activity with peers to those who reported investing a maximum of twenty hours a week with their peers.

Measuring Sociability with Peers. Sociability was measured by two items reflecting the school as a social sphere for youth. These are: 1) "About how popular do you think you are in this school?" and 2) "I like to be in the middle of a lot of activities in school." Response categories for the first item range from 1) "Not very popular" to 4) "One of the most popular," and response categories for the second item range from 1) "Strongly disagree" to 4) "Strongly agree."

Measuring Perceived Peer Attitudes Governing Alcohol Use. The following item was used to measure perceived peer attitudes surrounding the use of alcohol: "Which of the following best describes how your best friends feel or would feel about your drinking alcoholic beverages?" Respondents were requested to indicate their perceived approval or disapproval on a scale ranging from 1) "Strongly disapproves" to 4) "Strongly approves." When respondents indicated that they 5) "Didn't know" how their peers felt about their drinking, it was interpreted as an intermediate score falling between approval and disapproval on the assumption that such youth either really did not know how their peers felt about their drinking, or were indifferent to others' opinions on the subject.

Measuring Alcohol Use. The "Alcohol Quantity-Frequency Index" utilized in the study was derived from work originally conducted by Jessor et al. (1968). A set of six items is used to determine the actual amount/volume of alcohol consumed by a given youth based upon self-reported quantity of beer, wine, and hard liquor characteristically consumed in one sitting coupled with the frequency of drinking. For example, respondents were confronted with the following questions regarding the frequency and quantity of beer consumption: "How often do you usually drink beer?—1) About 1 or 2 times a week; 2) About 3 or 4 times a month; 3) About 1 or 2 times a month; 4) Once every two or three months; 5) At least once or twice a year; and 6) Never." "When you drink beer, how much do you usually drink?—1) 7 or more bottles; 2) 5 or 6 bottles; 3) 3 or 4 bottles; 4) 1 or 2 bottles; 5) Less than 1 bottle; and 6) I never drink beer/abstinent." The same questions were repeated with respect to wine and hard liquor with the quantity categories changed to reflect the number of glasses for wine and drinks for hard liquor. The resulting score, then, corresponds to a rank ordering of the absolute quantity and frequency of alcohol consumption.

Measuring Personal Problems Attributable to Alcohol Use. Finally, an index of "personal problems" attributable to alcohol consumption was generated by utilizing the following seven items in response to the question, "Please tell us whether drinking has affected your life in any of the ways listed below:" 1) "Interfered with your school work"; 2) "Gotten you into trouble with your family"; 3) "Damaged or ruined a friendship"; 4) "Resulted in a fight"; 5) "Resulted in an accident of injury to yourself or someone else"; 6) "Brought you before school authorities"; and 7) "Gotten you into trouble with the law." To each of these items, respondents were requested to indicate whether they had ("yes") or had not ("no") experienced the problem. The resulting index ranges from those who reported no such problems to those few who had experienced all seven.

The within-time inter-correlations for the youth-cultural variables and alcohol use and personal problems are presented in Table 1. It is interesting to note that while identification and activity are moderately and positively associated, both variables are inversely related to peer-oriented sociability. This suggests that youths may identify with peers, and be active with peers outside of the school context, without becoming overly concerned about their position in the social structure of the school. In fact, it appears that activity and identification limit

Table 1
Within-Time Zero-Order Correlations (N's)^a

	Peer Identi- fication	Peer Activity	Peer Sociability	Perceived Peer Attitudes	Alcohol Use	Personal Problems
YEAR 1						
Identification	1.0000					
Activity	.2785 (329)	1.0000				
Sociability	-.2402 (307)	-.1992 (312)	1.0000			
Attitudes	-.0722 (274)	.2186 (276)	.0907 (260)	1.0000		
Alcohol Use	.0715 (329)	.4044 (333)	.0769 (317)	.4982 (282)	1.0000	
Personal Problems	-.0528 (241)	.2175 (244)	.1110 (231)	.1739 (206)	.3998 (251)	1.0000
YEAR 2						
Identification	1.0000					
Activity	.2328 (332)	1.0000				
Sociability	-.2367 (326)	-.1562 (328)	1.0000			
Attitudes	-.0701 (322)	.1822 (325)	.0240 (318)	1.0000		
Alcohol Use	.0987 (337)	.4400 (337)	.2080 (332)	.3861 (328)	1.0000	
Personal Problems	-.0557 (255)	.1150 (255)	.0346 (250)	.0527 (248)	.2791 (259)	1.0000
YEAR 3						
Identification	1.0000					
Activity	.2338 (330)	1.0000				
Sociability	-.1807 (325)	-.0574 (333)	1.0000			
Attitudes	-.0273 (321)	.2801 (327)	.1079 (321)	1.0000		
Alcohol Use	-.0653 (332)	.3966 (340)	.1403 (334)	.3570 (329)	1.0000	
Personal Problems	-.0324 (274)	.1164 (277)	.0923 (273)	.0811 (268)	.2511 (280)	1.0000

^aDifference in N's due to use of pairwise deletion procedure.

the need to stress involvement and popularity (sociability) with other youth while inside the confines of the school. In addition, perceptions of peer attitudes concerning the use of alcohol evidences a weak inverse relationship with identification, and a weak to moderate positive association with sociability. Only peer activity appears to be strongly related to peer attitudes governing the use of alcohol.

A similar pattern emerges between the predictor variables and alcohol use. While identification in years 1 and 2 is positively correlated with use (.07 and .10 respectively), in year 3 the relationship is weak and inverse (-.06). This is comparable to the correlations between personal problems and identification (year 1, -.05; year 2, -.06; year 3, -.03). Thus, peer identification has little apparent influence on alcohol use and its attendant personal problems. Peer activity is moderately correlated with alcohol use (year 1, .40; year 2, .44; year 3, .40), and weakly correlated with personal problems attributable to alcohol use (year 1, .22; years 2 and 3, .12). Generally, then, peer activity is a good predictor of both alcohol use and personal problems arising in adolescents' lives as a consequence of their drinking behavior. Sociability is also positively, though weakly, correlated with use and personal problems; the strongest relationships are in the junior year for use (.14) and the sophomore year for personal problems (.11). Of all the predictor variables, perceived peer attitudes governing the use of alcohol provides the strongest associations with use; however, it is only weakly associated with the likelihood of experiencing personal problems in one's life as a consequence of consumption.

Finally, Table 1 indicates that the use of alcohol is positively correlated with the likelihood of experiencing personal problems as a consequence of drinking (year 1, .40; year 2, .28; year 3, .25), suggesting that there is a tendency for personal problems to be related to increasing and decreasing levels of consumption. It should again be noted that the index of personal problems is not to be confused with the end-point of the quantity-frequency index, as not all heavy drinkers experience problems in their lives as a consequence of consumption, and not all youth who experience problems in their lives as a consequence of drinking are heavy drinkers.

PRESENTATION OF THE MODEL

In the analyses which follow, the data are examined utilizing the three-wave two-variable model presented in Figure 1. Unstandardized

path coefficients (metric betas) are used to describe the relative influence each of the variables has upon the other within and across time. The purpose of utilizing multiple regression, then, is to assess the strength of each path connecting the predictor and dependent variables while holding the effects of the two other variables in the equation constant. While some might quarrel with the application of regression to measures which are not all necessarily interval (nor dichotomized), it has become somewhat of a "tradition" among researchers in the field of adolescent alcohol use to utilize this technique when analyzing longitudinal data. In addition, methodologists have demonstrated that, in most instances, its benefits probably outweigh its disadvantages. Statistical evidence generally suggests that no serious differences emerge in applying this technique, as compared to the less sophisticated analytical tools suitable to studies based entirely upon ordinal data (Asher, 1976: 64-67; Labovitz, 1970; O'Brien, 1979). Thus, while one must approach the results which follow with some degree of caution, regression has been selected as the best possible form of data analysis available.

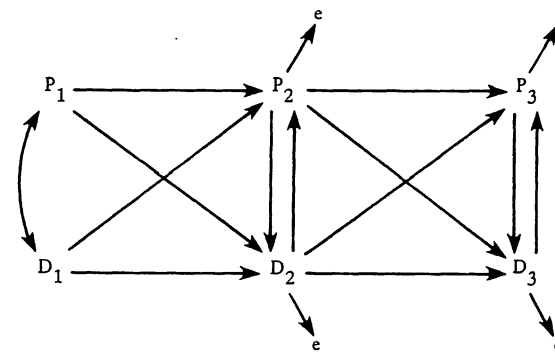
The model presented in Figure 1 indicates that the use of alcohol (or personal problems) "D" at time "t" is assumed to depend on use at time $t - 1$, and on the relevant predictor variable "P" at times t and $t - 1$. Similarly, each of the predictors at time t is assumed to depend on its value at time $t - 1$ and alcohol use/personal problems at times t and $t - 1$. To fully understand the relationship between peer activity and personal problems in the junior year, for example, one must evaluate the relative importance of the combined effects of personal problems and activity in the sophomore year as well as peer activity in the junior year. Similarly, to comprehend peer activity in the junior year one looks toward the effects of peer activity and personal problems in the sophomore year in addition to personal problems in the junior year. The model therefore allows changes in the relative importance of the variables to become evident as adolescents matriculate through high school.

RESULTS

The zero-order correlations, reflecting the time-ordering of the variables included in the path models under investigation, are presented in Table 2. The table indicates that each predictor and dependent variable's value at time t is moderately to strongly correlated with its value at times $t - 1$ and $t + 1$. Further, while the degree of association declines

cross-time for personal problems associated with drinking, the correlations for the youth-cultural parameters and alcohol use increase somewhat in strength cross-time. Weak to moderate relationships exist between the predictor and dependent variables within and across time. For example, the table indicates that peer activity and perceptions of peer attitudes governing the use of alcohol are somewhat more strongly, and consistently, associated with alcohol use and the likelihood of experiencing personal problems in one's life as a consequence of drinking than are the two other predictors.

Figure 1: The Model



P_i represents the four predictor variables under examination (peer identification, activity, sociability, and perceptions of peer attitudes governing the use of alcohol) during the sophomore (1), junior (2), and senior (3) years.

D_j represents either alcohol use or personal problems attributable to drinking at times 1, 2 and 3.

e represents residual effects.

While the correlation coefficients suggest changes occur in the relative strength of association within and across time, the present investigator is more interested in the path coefficients. These more accurately assess the magnitude of change in relationships between the

Table 2
Zero-Order Correlations for Model 1.^a

	PREDICTOR VARIABLES							
	Peer Identification		Peer Activity		Peer Sociability		Perceived Peer Attitudes	
	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems
<u>Parameter Paths</u>								
P ₁ P ₂	.584	--	.561	--	.512	--	.442	--
P ₂ P ₃	.619	--	.653	--	.567	--	.498	--
D ₁ D ₂	.605	.469	--	--	--	--	--	--
D ₂ D ₃	.648	.439	--	--	--	--	--	--
<u>Paths between Predictor and Dependent Variables</u>								
P ₁ D ₁	.072	-.053	.404	.218	.077	.111	.498	.174
P ₁ D ₂	.083	-.029	.344	.133	.065	.094	.375	.192
P ₂ D ₁	.082	-.047	.375	.110	.095	.044	.282	.073
P ₂ D ₂	.099	-.056	.440	.115	.208	.035	.386	.053
P ₂ D ₃	-.055	-.011	.396	.186	.101	.047	.275	.068
P ₃ D ₂	-.036	-.062	.416	.058	.181	.024	.355	.073
P ₃ D ₃	-.065	-.032	.397	.116	.140	.092	.357	.081

^aP_iD_j denotes the Pearson correlation coefficient for the relationship between the predictor variable P at time i and the dependent variable D at time j.

variables regardless of differences in N and categories of measurement, as they take into account the simultaneous influences of the predictor and dependent variables within and across time. As the estimations of the stability of parameters are essentially the same as discussed with respect to Tables 1 and 2, and they are considered to be of less theoretical interest, they are omitted in the following discussion. The discussion therefore centers upon the instantaneous and lagged influences between the variables, rather than on parameter stability. While these estimates are generally quite low, changes in the relative importance of predictors are still noticeable cross-time.

The path coefficients pertaining to the interplay between the youth-cultural predictors and adolescent drinking practices are presented in Table 3. Peer identification explains little about adolescent alcohol use or personal problems arising in the lives of adolescents related to their drinking behavior. Only in the senior year is peer identification even minimally related to use (-.06); indicating that identification may provide a slight pressure toward abstinence rather than toward use. The use of alcohol is, however, weakly predictive of identification beginning with the junior year, and personal problems are predictive of identification throughout high school. It is important to note that while use would appear to initially facilitate peer identification, both use and personal problems have negative consequences for the development and maintenance of such bonds over the long run. Together, the data indicate the youth-cultural perspective misjudges the role of identification with peers. Thus, peer solidarity appears to have little importance in assessing the drinking practices of youth. What little impact it does have is in the direction opposite than predicted; suggesting that peer identification promotes abstinence rather than use and the experiencing of personal problems.

Peer activity's influence on alcohol use begins the junior year (see Table 3). While there is a fairly substantial decline in the strength of the instantaneous coefficients between the junior (.39) and senior (.19) years, the lagged influences evidence a substantial increase during the latter period. The influence of alcohol use on peer activity generally reflects this pattern as well. Peer activity is not an effective predictor of personal problems, however; the only coefficient of even minimal importance is evident in the cross-lagged path tying peer activity in the junior year to personal problems in the senior year (.06). Personal problems attributable to alcohol use, on the other hand, are predictive of activity in all but the senior year.

Table 3
Regressions for the Youth-Cultural Predictors and
Adolescent Alcohol Use and Personal Problems Attributable to Drinking.^a

	PREDICTOR VARIABLES							
	Peer Identification		Peer Activity		Peer Sociability		Perceived Peer Attitudes	
	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems	Alcohol Use	Personal Problems
<u>Coefficients</u>								
<u>P→D</u>								
P ₁ D ₂	.014	-.015	.005	.003	.310	.053	.011	.097
P ₂ D ₂	.036	-.030	.386	.029	.713	.011	.665	.030
D ₁ D ₂	.540	.554	.461	.537	.533	.538	.483	.521
Residual	.795	.878	.647	.801	.779	.882	.764	.875
R ²	.368	.229	.419	.224	.393	.222	.416	.234
P ₂ D ₃	-.027	-.007	.110	.060	.258	.023	.114	.022
P ₃ D ₃	-.061	-.006	.186	.002	.225	.099	.464	.030
D ₂ D ₃	.645	.453	.572	.437	.654	.451	.608	.449
Residual	.760	.898	.747	.888	.759	.894	.748	.897
R ²	.423	.193	.443	.211	.424	.200	.440	.196
<u>D→P</u>								
D ₁ P ₂	.015	-.555	.018	.108	.019	.010	.026	.021
D ₂ P ₂	.045	-.376	.171	.137	.060	.010	.104	.050
P ₁ P ₂	.523	.531	.451	.554	.531	.542	.345	.415
Residual	.810	.803	.785	.826	.838	.859	.863	.896
R ²	.344	.354	.384	.317	.297	.263	.255	.196
D ₂ P ₃	-.056	-.074	.057	.041	.005	.029	.022	.040
D ₃ P ₃	-.062	-.056	.068	.007	.020	.075	.070	.041
P ₂ P ₃	.572	.563	.536	.617	.565	.574	.417	.492
Residual	.778	.785	.739	.757	.819	.820	.835	.865
R ²	.395	.384	.454	.426	.329	.327	.303	.252

^aX_iY_j denotes the unstandardized regression coefficients for the causal effect of variable X at time i on variable Y at time j.

In sum, the data provide some support for the youth-cultural hypothesis. Peer activity does serve to account for alcohol use, but does not generally serve to explain personal problems associated with consumption. Adolescents who are more actively involved in recreational pursuits with their peers are to some extent more likely to drink, compared with youth lacking such peer interaction, but they appear no more likely to experience personal problems in their lives which are directly attributable to their drinking. In contrast, both use and personal problems are associated with an increased probability of peer interaction as expected, though their respective effects are most pronounced during differing portions of the high school career.

Although the predictive power decreases as adolescents progress through high school, concerns for peer popularity and activity within the confines of the school (sociability) place a strong positive influence on use within and across time. The adolescent who ranks higher on sociability is more likely to imbibe compared to the adolescent lacking such desires. Alcohol use is generally of little importance, however, in predicting peer sociability. Consequently, it would appear that alcohol use emerges in response to a desire for peer popularity, rather than gregariousness emerging as a consequence of drinking.

The relationships between sociability and personal problems are generally in the predicted direction. The adolescent placing a high degree of concern for popularity and activity with peers within the confines of the school is, at least early on (.05) and late (.10) in the three-year period, slightly more likely to report having experienced personal problems in his or her life which are attributable to drinking, than is the youth lacking a concern for sociability. In addition, seniors who report personal problems are slightly more likely to score high on sociability (.08). In summary, sociability not only shares some of the responsibility for generating alcohol use, but it also increases the probability that adolescents will experience personal problems in their lives as a consequence of consumption. It appears, however, that the hypothesized relationships between adolescent orientations toward alcohol and peer sociability are largely unfounded. Alcohol use is only minimally predictive of peer sociability during the junior year (.06), and personal problems' major impact upon sociability comes in the senior year.

Adolescents' perceptions of peer attitudes governing the use of alcohol begin to serve as predictors of use the junior year (.66), but are only minimally predictive of personal problems beyond the first year of high school (.10). In contrast, though more important in the junior

than senior year, alcohol use and personal problems are generally predictive of peer attitudes within time. Together, as hypothesized, the findings indicate that adolescents are more likely to drink if they perceive of their peers as being supportive of use, and are more likely than not to view their closest peers as approving of their drinking practices. Contrary to expectations, it would appear that perceptions of peers' attitudes governing the use of alcohol have little to do with whether youths experience personal problems as a consequence of drinking. The data do indicate, however, that those who experience such problems may perceive their closest friends as being at least tolerant of their drinking practices.

SUMMARY

The current investigation has revealed that the relative importance of predictors of adolescent drinking practices change cross-time. Not only do variations arise in the concepts' abilities to account for alcohol use and personal problems from year to year as students progress through the high school career, but the predictors are generally much more effective in accounting for the use of alcohol than the likelihood of experiencing personal problems as a consequence of drinking. For example, while peer identification places its most important influence upon adolescent alcohol use during the senior year, peer activity, sociability, and perceptions of peer attitudes governing the use of alcohol are all most influential in shaping patterns of alcohol use during the junior year. Similarly, the likelihood of experiencing alcohol-related personal problems is most strongly influenced by sociability during the senior year, and peer-oriented identification the junior year. On the other hand, peer activity's influence upon personal problems is strongest in the cross-lagged path between peer activity in the junior year and personal problems in the senior year, and peer attitudes toward the use of alcohol in the sophomore year are most influential in prompting personal problems in the junior year. Thus, the analyses suggest that the varying ties to the peer group most strongly influence alcohol use and personal problems at differing points in time.

Further, while use and the likelihood of experiencing personal problems as a consequence of drinking are differentially reflected in the predictor variables cross-time, they generally exert a greater influence upon the youth-cultural predictors during the junior year than at any other point in time. The only notable exceptions to this pattern are the

impact of alcohol use upon peer identification (which is most pronounced in the latter years of high school), and personal problems' influence upon sociability (which is greatest during the senior year).

The basic image derived from the analyses, then, is that heightened peer group relations increase the likelihood of alcohol use (in preference to abstinence) and, to a lesser degree, the probability of experiencing personal problems as a consequence of drinking. Moreover, while alcohol use, and its associated personal problems, have negative consequences for the development of peer solidarity (identification) beginning with the junior year, these behaviors are associated with the development and maintenance of peer activity, sociability, and the perception that one's peers support the use of alcohol. Thus, the peer-oriented social/normative environment not only directs and influences youthful orientations toward alcohol, but is responsive to adolescents' actual patterns of, and experiences with, alcohol use as well.

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